

WHAT IS CLAIMED IS:

1. In an ATM network having a plurality of paths to a common destination, a method comprising:

5 receiving ATM traffic from a traffic source as a plurality of copies of traffic routed along a plurality of paths, each one of the paths having a receive circuit;

configuring an ATM switch to provide a route to a common destination for each one of the paths;

determining a qualified copy of the traffic; and

discarding all copies of the traffic except for the qualified copy such that only the qualified copy is passed to the ATM switch for routing to the common destination.

15 2. The method of Claim 1, wherein determining comprises receiving management cells on a path indicating an alarm indication signal (AIS) or loss of continuity (LOC).

20 3. The method of Claim 1, wherein determining comprises detecting a loss of a keep-alive signal at one of the respective receive circuits.

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4. The method of Claim 1, wherein determining is based upon the following criteria:

alarm indication signal (AIS),

loss of continuity (LOC), or

5 missing terminating circuit card; thereafter high bit error rate (BER).

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5. The method of Claim 1, wherein discarding comprises responding to qualifying information regarding the quality of virtual path (VP) copies to determine which VP copy is to be switched through and which is to be discarded at the respective receive circuit.

15 6. The method of Claim 1, wherein determining comprises communicating information related to qualifying between the respective receive circuits.

20 7. The method of Claim 1, wherein the paths comprise a first path in a first direction around a SONET UPSR and a second path in a second direction around the SONET UPSR.

25 8. The method of Claim 1, wherein the ATM switch is configured to route ATM traffic for a given virtual path (VP) from each respective receive circuit to the common destination.

9. An apparatus in a network having a plurality of paths to a destination, comprising:

5 a plurality of receive circuits operable to receive ATM traffic from a traffic source as a plurality of copies via a plurality of paths, the receive circuits operable to qualify signals on the paths to designate a particular receive circuit as active such that each other receive circuit discards its respective traffic; and

10 an ATM switch configured to provide a route to a destination for each one of the paths, the ATM switch operable to route traffic from the active receive circuit to the destination.

15 10. The apparatus of Claim 9, wherein each receive circuit is operable to receive management traffic on a path indicating a degradation or loss in signal.

20 11. The apparatus of Claim 9, wherein each receive circuit is operable to detect a loss of a keep-alive signal of another receive circuit.

25 12. The apparatus of Claim 9, wherein the receive circuits communicate information related to traffic qualification.

13. The apparatus of Claim 9, wherein the ATM switch is configured to route ATM traffic for a given virtual path (VP) from each receive circuit to the destination.

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14. The apparatus of Claim 9, wherein the receive circuits qualify signals based upon the following criteria:

alarm indication signal (AIS),  
loss of continuity (LOC), or  
missing terminating circuit card; thereafter  
high bit error rate (BER).

15. The apparatus of Claim 9, wherein the paths comprise a first path in a first direction around a SONET UPSR and a second path in a second direction around the SONET UPSR.

*Subj* 16. A program embodied in computer-readable media and operable to perform the following steps:

receiving, at a receive circuit, ATM traffic from a traffic source as one of a plurality of copies of traffic routed along a plurality of paths;

determining, at the receive circuit, whether the received copy is a qualified copy of the traffic;

discarding the received copy if the received copy is not the qualified copy; and

10 communicating the received copy from the receive circuit to an ATM switch for routing to a destination if the received copy is the qualified copy.

15 17. The program of Claim 16, wherein determining comprises receiving management traffic at the receive circuit indicating an alarm indication signal (AIS) or loss of continuity (LOC).

20 18. The program of Claim 16, wherein determining comprises detecting a loss of a keep-alive signal.

25 19. The program of Claim 16, wherein determining is based upon the following criteria:

alarm indication signal (AIS),

loss of continuity (LOC), or

missing terminating circuit card; thereafter high bit error rate (BER).

20. The program of Claim 16, wherein discarding comprises responding to qualifying information regarding the quality of virtual path (VP) copies to determine whether a VP copy received at the receive circuit is to  
5 be switched through or discarded.

21. The program of Claim 16, wherein determining comprises communicating information related to qualifying to another receive circuit.  
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22. The program of Claim 16, wherein the paths comprise a first path in a first direction around a SONET UPSR and a second path in a second direction around the SONET UPSR.  
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23. The program of Claim 16, wherein the ATM switch is configured to route ATM traffic for a given virtual path (VP) from each of the paths to the destination.  
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